IN THE CLAIMS

1-18 (Canceled)

19. (Currently Amended) A method of detecting a target biological agent in a sample comprising:

a) combining said sample with a [[the]] composition of matter ~~of Claim 17~~ comprising a fluorescent polymer and a chemical moiety, the chemical moiety comprising a recognition element which binds to a target biological agent and a property-altering element which alters fluorescence emitted by said fluorescent polymer when associated therewith, the recognition element and the property altering element bound together by a tethering element, the chemical moiety being adapted for complexation with said fluorescent polymer, wherein, in the presence of binding between the recognition element and the target biological agent, the fluorescence emitted by said polymer is altered from that emitted when binding between the recognition element and the target biological agent does not occur, wherein the presence of the biological agent in the sample results in a complex between the chemical moiety and the biological agent, and wherein, when an electric field is applied, the complex is separated from the polymer and the fluorescence emitted by the polymer is altered from that emitted when separation does not occur;

b) permitting said chemical moiety to complex with target biological agent in said sample;

c) applying an electric field; and thereafter

d) detecting the fluorescence emitted by said polymer;

wherein a difference in fluorescence emitted after said electric field is applied compared with that emitted in the absence of said electric field is indicative of the presence of said target biological agent.

20. (Original) The method of Claim 19, wherein the amount of target biological agent present in said sample is correlated with the amount of said difference.

21. (Currently Amended) A method for determining the presence of a target chemical ligand in a sample comprising:

a) complexing a bioagent capable of binding said target chemical ligand to a chemical moiety ~~of Claim 1~~ to form a bioagent complex;

b) adding said bioagent complex to said sample in the presence of a fluorescent polymer;

c) permitting said target chemical ligand to compete with said chemical moiety for the binding of said bioagent; and

d) thereafter determining the fluorescence emitted by said polymer ~~after said permitting step~~;

wherein the chemical moiety comprises a recognition element which binds to a target biological agent and a property-altering element which alters fluorescence emitted by the fluorescent polymer when associated therewith, the recognition element and the property altering element being bound together by a tethering element, the chemical moiety being adapted for complexation with the fluorescent polymer, wherein, in the presence of binding between the recognition element and the target biological agent, the fluorescence emitted by said polymer is altered from that emitted when binding between the recognition element and the target biological agent does not occur;

and wherein the difference in fluorescence emitted after said permitting step compared with that emitted before said permitting step is indicative of the presence of said target chemical ligand.

22. (Original) The method of Claim 21, wherein the amount of said target chemical ligand in said sample is correlated with the amount of said difference in fluorescence emitted.

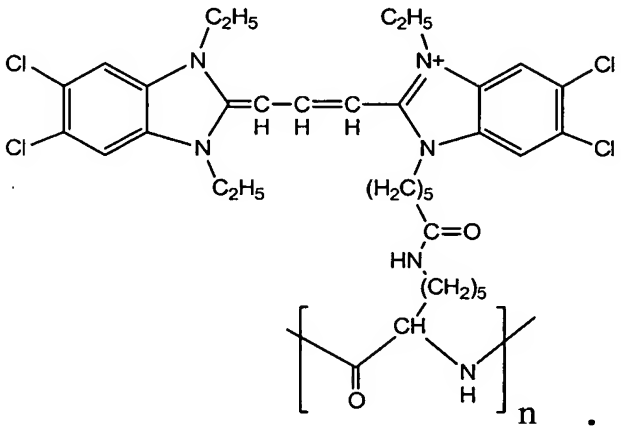
23. (New) An assay reagent comprising a mixture of first and second fluorescent polymers.

24. (New) The assay reagent of Claim 23, wherein the first and second fluorescent polymers are both polyelectrolytes.

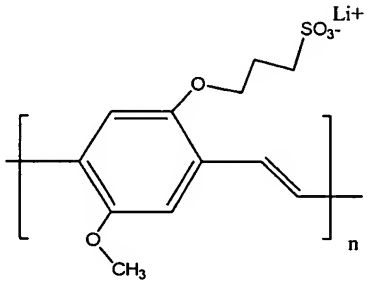
25. (New) The assay reagent of Claim 23, wherein the assay reagent comprises equimolar quantities of the first and second fluorescent polymers.

26. (New) The assay reagent of Claim 23, wherein the assay reagent is an aqueous solution comprising the first and second fluorescent polymers.

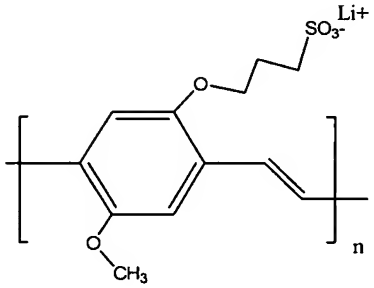
27. (New) The assay reagent of Claim 23, wherein the first fluorescent polymer comprises a repeating unit represented by the following formula:



28. (New) The assay reagent of Claim 23, wherein the second fluorescent polymer has a repeating unit represented by the following formula:



29. (New) The assay reagent of Claim 27, wherein the second fluorescent polymer comprises a repeating unit represented by the following formula:



30. (New) The assay reagent of Claim 23, wherein the first polymer is coated onto a solid support and the second polymer is in solution.

31. (New) The assay reagent of Claim 29, wherein the first polymer is coated onto a solid support and the second polymer is in solution.

32. (New) The assay reagent of Claim 23, wherein the first and second fluorescent polymers are both coated onto solid supports.

33. (New) The assay reagent of Claim 23, further comprising a bioconjugate, wherein the bioconjugate comprises:

a recognition element, capable of binding to a target biological agent;

a property-altering element capable of altering the fluorescence emitted by the first fluorescent polymer and/or the second fluorescent polymer;

and a tethering element connecting the recognition element to the property-altering element;

wherein the bioconjugate is complexed to the first and/or second fluorescent polymers; and wherein binding of the recognition element and the target biological agent alters the fluorescence emitted by the first and/or second fluorescent polymers from that emitted in the absence of binding between the recognition element and the target biological agent.

34. (New) A method of detecting a target biological agent in a sample, the method comprising:

adding the sample to a composition comprising:

a fluorescent polymer; and

a bioconjugate comprising a recognition element capable of binding to the target biological agent, a property-altering element capable of altering the fluorescence emitted by the fluorescent polymer, and a tethering element connecting the recognition element to the property-altering element;

incubating the sample and the composition to allow the recognition element of the bioconjugate to bind to target biological agent present in the sample; and

determining the fluorescence of the polymer after incubating the sample;

wherein the fluorescence of the polymer after incubating the sample is indicative of the presence and/or amount of the target biological agent in the sample.

35. (New) The method of Claim 34, further comprising:

determining the fluorescence of the composition before adding the sample;

determining the change in fluorescence resulting from incubating the sample and the composition;

wherein the change in fluorescence of the polymer is indicative of the presence and/or amount of the target biological agent in the sample.

36. (New) A method of detecting first and second target biological agents in a sample comprising:

adding the sample to a composition comprising:

first and second fluorescent polymers;

a first bioconjugate comprising a recognition element capable of binding to the first target

biological agent, a property-altering element capable of altering the fluorescence emitted by the first fluorescent polymer, and a tethering element connecting the recognition element to the property-altering element; and

a second bioconjugate comprising a recognition element capable of binding to the second target biological agent, a property-altering element capable of altering the fluorescence emitted by the second fluorescent polymer, and a tethering element connecting the recognition element to the property-altering element;

incubating the sample and the composition to allow the recognition element of the first bioconjugate to bind to any of the first target biological agent present in the sample and to allow the recognition element of the second bioconjugate to bind to any of the second target biological agent present in the sample; and

determining the fluorescence of the first and second polymers after incubating the sample;

wherein the fluorescence of the first polymer after incubating the sample is indicative of the presence and/or amount of the first target biological agent in the sample and wherein the fluorescence of the second polymer after incubating the sample is indicative of the presence and/or amount of the second target biological agent in the sample.

37. (New) The method of Claim 36, further comprising:

determining the fluorescence of the composition before adding the sample; and

determining the change in fluorescence of the first polymer and the second polymer resulting from incubating the sample and the composition;

wherein the change in fluorescence of the first polymer is indicative of the presence and/or amount of the first target biological agent in the sample and wherein the change in fluorescence of the second polymer is indicative of the presence and/or amount of the second target biological agent in the sample.

38. (New) A compound comprising a recognition element capable of binding to a target biological agent and a property-altering element capable of amplified superquenching of a fluorescent polymer when associated therewith, wherein the property-altering element and the recognition element are bound together by a tethering element;

wherein the recognition element comprises a peptide nucleic acid and wherein the property-altering element is a fluorescent dye or an energy accepting moiety.

39. (New) The compound of Claim 38, wherein the tethering element is selected from the group consisting of a single bond, a single divalent atom, a divalent chemical moiety up to 100 carbon atoms in length and a multivalent chemical moiety.

40. (New) A kit comprising:

a compound as set forth in Claim 38; and

a fluorescent polymer;

wherein the property-altering element is capable of amplified superquenching of the fluorescent polymer.

41. (New) The kit of Claim 40, wherein the fluorescent polymer is cationic.